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Corrigendum

Corrigendum to “Vowel space area in later childhood and adolescence: Effects of age, sex and ease of communication” [J. Phon. 54 (2016) 1–14]

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The authors regret that in analysing vowel data from a similar cohort to the reference adult cohort reported in Pettinato et al. (2016), discrepancies in vowel space areas (VSA) values occurred that went beyond what would be expected from mere speaker variation. This led to a reanalysis of the adult reference vowels from the Pettinato et al. (2016) study. Errors were found in some formant estimations for F1 of /æ/ and F2 of /ɔ:/ which had significant impact on the VSA calculations for these reference adult values.

Following a complete reanalysis of the adult reference data, the authors include revised Figs. 2 and 3 and report the following changes relative to the published paper.

Whereas it was reported that the main effect of age band was significant, with adults having smaller VSA than all groups of children, this main effect is no longer present in the revised analysis using the same statistical approach as reported in the paper. However, a Condition by Age band interaction revealed that an effect of age was present for the NB condition with the VSA of adults being smaller than the VSA of 9–12 year olds; 13–14 year olds did not differ from adults but had a smaller VSA than 9–12 year olds. In the abstract, the statement that

‘Children’s VSA were significantly larger than adults’ only therefore now applies to children aged 9–12 years relative to adults in the NB condition. As in the original analysis, post-hoc tests showed that VSA were larger for the VOC condition than for the NB condition for all four age bands.

New effects of talker sex, not present in the original analysis, have also emerged in the reanalysis. There is a main effect of Sex, with female talkers having a larger VSA than male talkers and an Age band by Sex interaction, showing an effect of age on VSA present for male but not female talkers. These effects could at least partly be due to the ERB scale not fully compensating for physiological differences between male and female vocal tracts.

In the discussion, the authors argued that the finding of a significantly larger VSA in children up to the age of 14 relative to young adults was against expectations, so the revised findings are more consistent with expectations from prior literature. The discussion relating to the possible causes of larger VSA in children should be taken to relate to children up to age 12.

The authors would like to apologise for any inconvenience caused.

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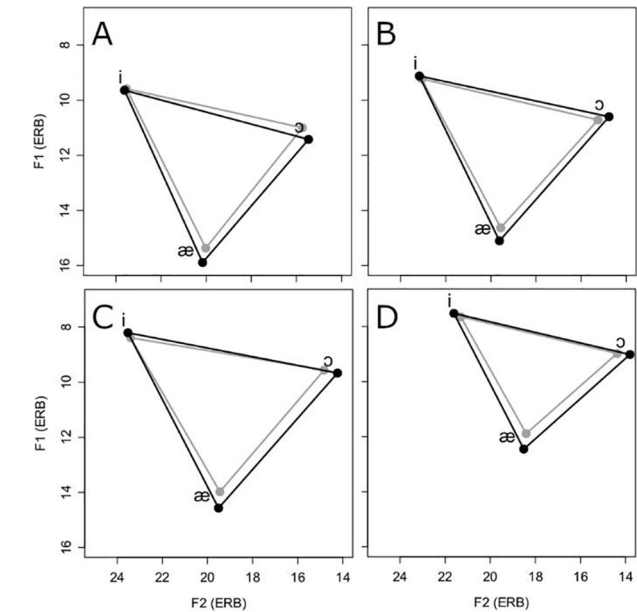


Fig. 2. Vowel space area (ERB2) between vowels [i:], [ɔ:] and [æ] for the ‘no barrier’ (NB) (grey) and communication barrier (VOC) (black) conditions in the girls (A), boys (B), women (C) and men (D).

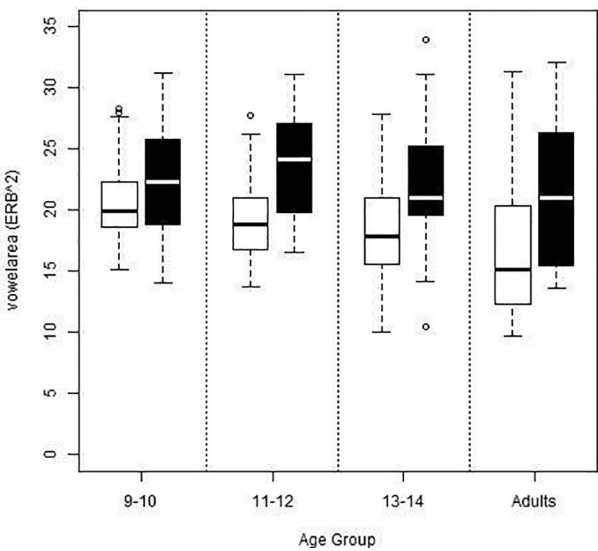


Fig. 3. Box-plots showing the size of the vowel space area (ERB2) for ‘no barrier’ (NB, white boxes) and communication barrier (VOC, black boxes) conditions in three groups of children and in adults.